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Memorandum

Date: 14 June 2006

To: Mark Anderson / Gary Morin

From: Don Boyé

Subject: Results of Building Materials Sampling – Aerovox Building – May 2006

Distribution:

Solid samples were collected in May 2006 to characterize possible PCB contamination associated with various forms of interior and exterior building materials found at the Aerovox Building Annex. Representative samples of plywood, drywall, carpeting, interior roof insulation panels, and structural wood beams were obtained from within the building, along with wipe samples off interior surfaces of ventilation duct work and structural steel I-beams. Representative samples of the brick work and window caulking were also collected from the exterior of the Annex. Ancillary samples were also obtained from exterior out buildings, including the guard shack, pump house, along with the flag pole. In total, 77 samples were collected between 18 and 20 May 2006 as summarized in Table 1. The locations for those samples associated with the annex are depicted on the floor plan for the building on Figures 1 and 2.

Sampling was conducted in accordance with the ENSR Field Sampling Plan dated 12 May 2006. In brief, solid wood samples (wood beams, plywood paneling, and the wood siding of the guard shack) were collected with a ½" spade bit by drilling to a depth of ½" (wood beams), or to the full depth of the paneling or siding, and capturing shavings in a paper trough. A series of holes were drilled in order to obtain the required quantity of sample. Solid brick samples were obtained by chiseling fragments off the facade to a depth of approximately ½", capturing materials in a paper trough. Solid samples of exterior window caulking were collected by prying loose fragments from around the window casing using a chisel. Solid samples of carpeting, insulating ceiling panels, and drywall were obtained by cutting and removing small sections using a razor knife. These various sampling methods were applied until a minimum of 20-grams of sample material, as determined in the field by an analytical balance, was obtained. Photographs depicting a typical sampling location for these various building materials are shown on Figures 3 through 10.

Wipe samples of non-porous surfaces including the main structural steel I-beam, interior surfaces of ventilation ductwork, flag pole, and a motor housing found in the pump house were obtained by wiping a 100 cm^2 area with a gauze pad pre-moistened with hexane.

Samples were analyzed for PCB Arochlors at ESS Laboratories as detailed in the Project QAPP dated May 2006. Lab analysis included blank spike, blank spike duplicates, method blanks, and surrogate recoveries for quality purposes. PCBs were detected in a variety of matrices within the building

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including carpeting, plywood paneling, drywall, insulation panels on the underside of the roof, and structural wood timbers as summarized below.

Interior Sampling

- The most significant PCB contamination, ranging from 125 to 774 mg/kg, was found in the carpet samples. The highest values were found along a likely traffic pattern between the adjoining Aerovox administration areas and the front entrance of the building.

- Plywood paneling samples were typically above 15 mg/kg (10 of 15 samples) with five sampling locations showing a concentration greater than 50 mg/kg, ranging from 57 to 102 mg/kg. The two highest values were obtained in samples collected from the main lobby of the annex; the next highest value was obtained from a sample collected in an office directly across the hall from the main lobby.

- Drywall sample concentrations were typically below 15 mg/kg (7 of 11 samples). At the remaining stations however, clustered at the southern end of the hallway and into the adjoining Executive Lounge area, concentrations were 20 mg/kg or greater, with a maximum value of 40 mg/kg.

- Samples collected from ceiling panels (material properties similar to sheets of particle board) ranged from 27 to 45 mg/kg (5 samples). These ceiling panels showed signs of discoloration from water intrusion through the roof membrane in many locations and sampling typically targeted these areas wherever possible. These ceiling panel samples had the highest PCB contamination for any of the sampling conducted above the finished drop ceiling of the annex.

- Samples of structural wood timbers (painted surface) typically ranged from of 4 to 11 mg/kg (8 of 10 samples); the remaining two samples were less than 4 mg/kg.

- Wipe samples were collected from two elements above the finished drop ceiling, including the main structural I-beam running the length of the annex, and from interior surfaces of ventilation ductwork. The results for these samples ranged from 0.31 to 1.2 ug/100cm^2 (steel) and 0.8 to 5.5 ug/100cm^2 (vents). The interior surfaces of the ventilation ductwork generally held accumulated deposits of black particulate matter.

Exterior Sampling

Data associated with sampling conducted outside of the building indicated that PCB contamination was not as prevalent as inside the building.

- Wipe samples from the flag pole and solid samples of the brick facade were all non-detect.

- Brick samples were taken from inside and outside of the detached pump house and results were 1.2 mg/kg and non-detect, respectively. One wipe sample collected from an electrical motor housing inside the pump house had a resultant value of 44 ug/100cm^2.

- Exterior wood samples of the detached guard shack ranged from 1.2 to 4.4 mg/kg.

- Samples of window caulking ranged from 18 to 36 mg/kg. These values are more likely an artifact of the natural properties associated with the caulking formulation of the era as opposed to

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"after-market" PCB contamination (PCB Site Revitalization Guidance under the Toxic Substances Control Act – TSCA, USEPA 2005).

TABLE 1 - PCB Concentrations in Samples Collected from the Aerovox Building - May 2006

Material Description (Interior Elements)

Ceiling Panels		Drywall		Plywood		Steel I-beam		Vent ducting		Carpeting		Wood Beams	
Sample ID	mg/kg	Sample ID	mg/kg	Sample ID	mg/kg	Sample ID	ug/100cm2	Sample ID	ug/100cm2	Sample ID	mg/kg	Sample ID	mg/kg
AVX-CT01	32.2	AVX-DW01	11.0	AVX-PW02	17.1	AVX-ST01	0.48	AVX-VT01	5.4	AVX-CP01	774.0	AVX-WD01	4.7
AVX-CT02	44.6	AVX-DW04	10.6	AVX-PW03	10.9	AVX-ST02	0.36	AVX-VT02	0.8	AVX-CP02	175.0	AVX-WD02	3.6
AVX-CT03	28.0	AVX-DW05	5.8	AVX-PW08	95.0	AVX-ST03	1.18	AVX-VT03	5.5	AVX-CP03	124.7	AVX-WD03	4.3
AVX-CT04	32.5	AVX-DW06	8.6	AVX-PW08D	101.9	AVX-ST04	0.31	AVX-VT04	0.8	AVX-CP04	204.9	AVX-WD04	5.5
AVX-CT05	27.1	AVX-DW10	5.4	AVX-PW12	9.3	AVX-ST05	0.31			AVX-CP04D	247.6	AVX-WD05	7.1
		AVX-DW11	14.5	AVX-PW13	11.2	AVX-ST06	0.43			AVX-CP05	252.9	AVX-WD06	1.2
		AVX-DW16	8.2	AVX-PW14	74.5					AVX-CP06	133.1	AVX-WD07	8.0
		AVX-DW19	25.4	AVX-PW15	70.8					AVX-CP07	158.2	AVX-WD08	5.0
		AVX-DW19D	23.4	AVX-PW17	24.9							AVX-WD08D	5.1
		AVX-DW22	40.4	AVX-PW18	36.1							AVX-WD09	10.2
		AVX-DW23	19.9	AVX-PW20	57.3								
				AVX-PW21	23.6								
				AVX-PW25	30.8								
				AVX-PW26	12.9								
				AVX-PW27	13.9								

Material Description (Exterior Elements)

Guard Shack		Window Caulking		Flagpole		Brick		Pump House		
Sample ID	mg/kg	Sample ID	mg/kg	Sample ID	ug/100cm2	Sample ID	mg/kg	Sample ID	mg/kg	ug/100cm2
AVX-GS01	4.4	AVX-WC01	18.0	AVX-FP01	ND	AVX-BR01	ND	AVX-PH01(motor)		44.3
AVX-GS02	0.8	AVX-WC02	35.9	AVX-FP02	ND	AVX-BR02	ND	AVX-PH02D	ND	
AVX-GS03	1.2	AVX-WC03	19.1			AVX-BR03	ND	AVX-PH03	1.15	
						AVX-BR04	ND			
						AVX-BR05	ND			
						AVX-BR06	ND			
						AVX-BR07	ND			

NOTE: PCB Concentrations are expressed as Total Arochlors - mg/kg (dryweight) for solid samples and ug/100cm2 (wipe samples)

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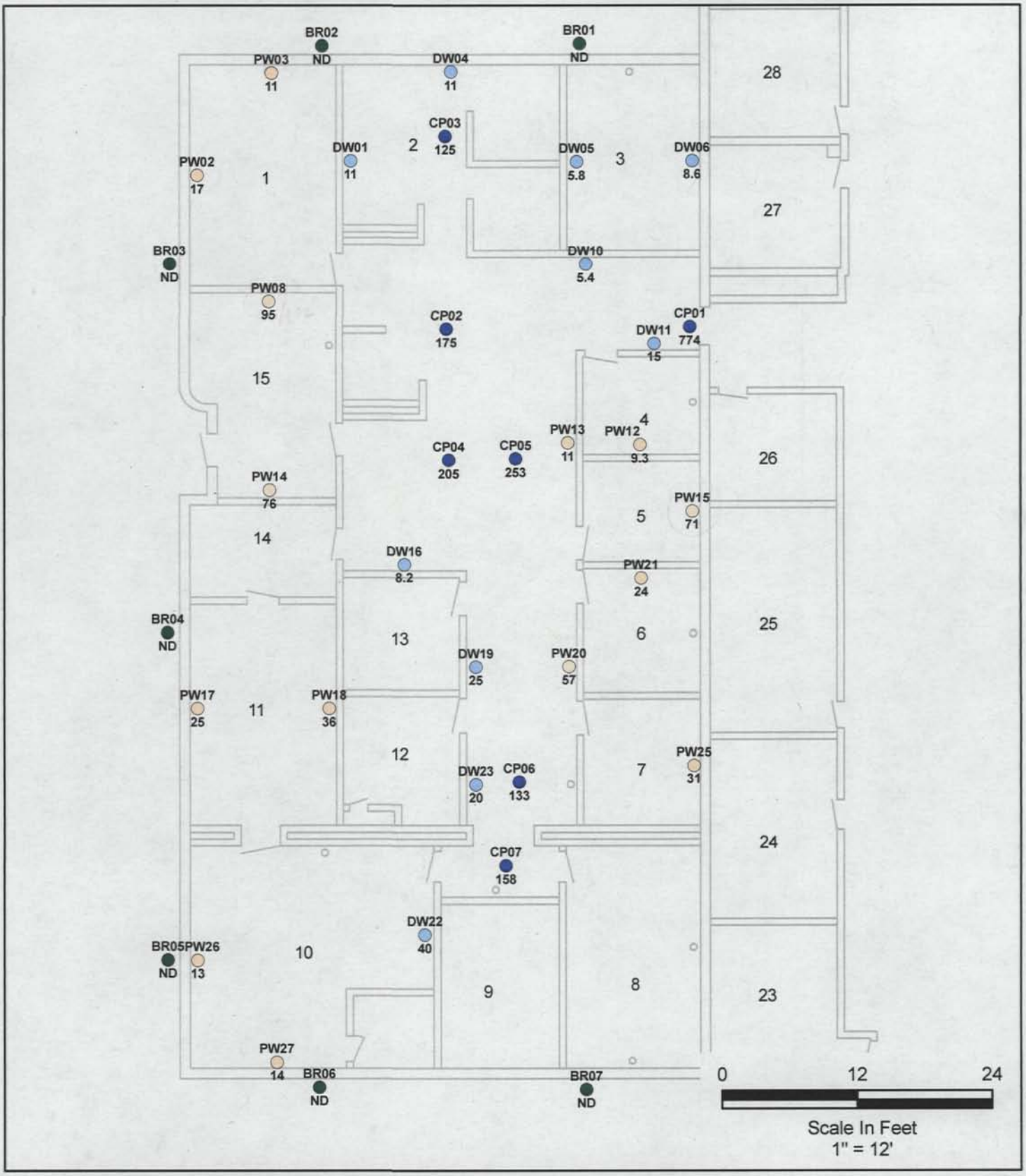

Figure 1. Total PCB Concentrations (mg/kg) for Solid Samples Collected from the Aerovox Building Annex May 2006

Sources:
NAD 83 Mass State Plane ft
Date: 06.16.06

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Notes: Total PCB concentration based on total Aroclors
ND - Non Detect

Sample Type
- Drywall [DW]
- Carpet [CP]
- Brick [BR]
- Plywood [PW]

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US Army Corps of Engineers
New England District

U.S. Army Corps of Engineers
New Bedford Harbor Superfund Site

Figure 2. Total PCB Concentrations for Solid (mg/kg) and Wipe (ug/100 cm^2) Samples Collected from the Aerovox Building Annex May 2006

Sources:
NAD 83 Mass State Plane ft
Date: 06.16.06

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Notes: Total PCB concentration based on total Aroclors
Vent and Steel Beam sample types are based on wipe samples

Sample Type
- Vent [VT]
- Steel Beam [ST]
- Ceiling Tile [CT]
- Wood Beam [WD]

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Figure 3 – Typical Carpet Sampl

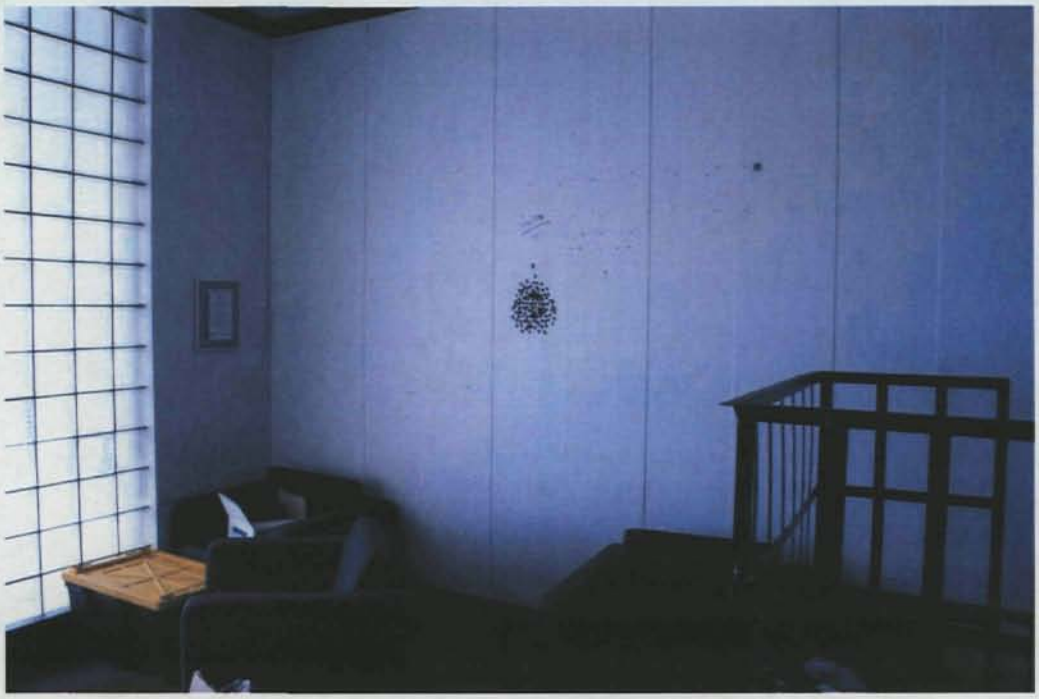

Figure 4 – Plywood Sampling Site Front Lobby

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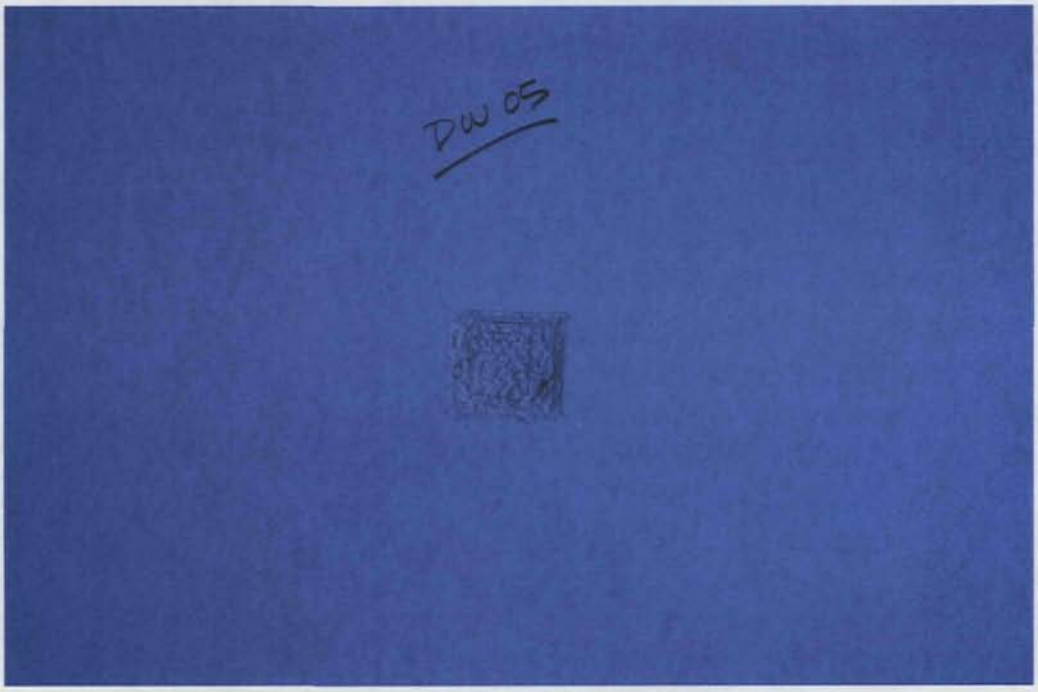

Figure 5 – Typical Drywall Sample

Figure 6 – Overhead Ceiling Panels

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Figure 7 – Typical Wood Beam Sample

Figure 8 – Wipe Sample Site - Steel I-Beam

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Figure 9 – Typical Brick Sample

Figure 10 – Typical Window Caulking Sample